

## **REMARKS**

### **I. Status**

Claims 1-21 were originally presented. The present response does not add, cancel or amend any claims. Accordingly, it is claims 1-21, as filed, which are at issue.

### **II. Rejection of Claims 1-21 Under 35 U.S.C. §103(a)**

Claims 1-21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Olk et al. (U.S. Patent No. 6,212,333 B1) ("the '333 patent"). Applicant respectfully traverses this rejection in light of the following arguments.

#### **A. Description of the Cited Art**

The '333 patent is directed to a water disinfecting system for use in the field of dentistry (col. 1, lines 13-15). Waterlines in dental fluid delivery systems tend to create environments conducive to the growth of bacteria, fungi, other such organisms that accumulate and form biofilms (col. 1, lines 24-28). Biofilm resident in dental equipment waterlines may become dislodged during the usage of the equipment and transferred to the patient, potentially causing illness or infection. Conventional methods to eliminate biofilms from waterlines, as described in the '333 patent, include the use of filters, chemical treatments or an oxidation/ozonation process (col. 1, lines 51-55). However, some of the disadvantages of these conventional methods include time-consuming daily cleaning regimens, prohibitive cost, minimal effectiveness, or potential harm to the patient (col. 1, lines 55-67 – col. 2, lines 1-11). The device of the '333 patent attempts to overcome these disadvantages by utilizing sterilized water in the dental equipment; and toward that end, it provides a system to deliver sterilized water by using a vessel to store and heat water to a temperature between 190 and 300 degrees Fahrenheit (col. 2, lines 54-58; col. 3, lines 12-14). Once the water is sterilized, it is cooled before being delivered to the waterline for

the patient's comfort (claim 1, col. 8, lines 1-5; col. 3, lines 14-17; col. 4, lines 46-49; col. 6, lines 14-29, 57-62; col. 7, lines 20-24).

The system of the '333 patent includes a water inlet line that supplies water from a given source to a heater (col. 4, lines 10-16). Once water supplied by the inlet line is in the heater, the temperature and pressure in the heater is adjusted by a control system to allow the water to become sterilized (col. 4, lines 37-43). This control system includes a water level monitor in the heater that works in conjunction with a solenoid inlet valve to shut off the water inlet line once a desired amount of water is present in the heater (col. 5, lines 8-15). The control system also includes a pressure switch and a pressure relief valve that cooperatively work to maintain a desired temperature and pressure in the heater (col. 5, lines 15-32). The system of the '333 patent also includes a chiller and a heat exchanger (col. 6, lines 14-19). The chiller and heat exchanger cooperatively serve to cool the sterilized water before it flows through an outlet passageway to dental equipment used on a patient (col. 6, lines 57-62). It is significant that any steam which is produced in the operation of the '333 system is vented from the system and not utilized in the operation of the system (col. 4, lines 44-54).

**B. Description of Applicant's Invention**

Applicant's invention is directed to providing a system that both provides sanitized water to a dental unit and functions as a cleaning device operative to remove biofilm from the dental unit, including biofilm that is already in the unit (page 3, lines 5-12). Applicant's invention includes a boiler capable of providing both steam and sanitized water (page 4, lines 20-22). Water is supplied to the boiler by a water inlet (page 4, 20-22). Once in the boiler, the water is superheated by a heater and is subject to pressurization (page 7, lines 20-21; page 8, lines 6-11). A water delivery line and a steam delivery line are in communication with the boiler (page 8,

lines 12-15). The water delivery line is designed to deliver sanitized water via a fluid delivery line to dental equipment during the course of rendering services to a dental patient. The steam delivery line is designed to provide steam via the fluid delivery line for the purpose of removing biofilm from the fluid delivery line. The water delivery line and the steam delivery line are also in communication with a diverter valve (page 8, lines 13-17). When a user is rendering dental services to a patient, the diverter valve is actuated in a manner that allows sanitized water to travel through the water delivery line to the fluid delivery line and prevents steam from traveling through the fluid delivery line (page 8, lines 18-20). If a user desires to remove biofilm or otherwise clean the system or associated dental equipment, the diverter valve is actuated in a manner that allows steam to travel through the fluid delivery line and prevents the sanitized water from traveling through the fluid delivery line (page 8, lines 20-22 – page 9, lines 1-2).

### C. Argument

The Federal Circuit in *In re Lee*, 277 F.3d 1338, 1343, 61 USPQ2d 1430 (CAFC 2002) stated that with respect to obviousness, “The search for an analysis of the prior art includes evidence relevant to the finding of whether there is a teaching...to select and combine the references relied on as evidence of obviousness,” (citing *McGinley v. Franklin Sports*, 262 F.3d 1339, 1351-52, 60 USPQ2d 1001, 1008 (CAFC 2001). In addition, the factual inquiry whether to combine references must be thorough and searching, and must be based on objective evidence of record. *Id.* The court further notes that “the best defense against the subtle but powerful attraction of a hindsight based obviousness rejection is rigorous application of the requirement for showing of the teaching or motivation to combine prior art references. *Id.*, citing *In re Dance*, 160 F.3d 1399, 1343, 48 USPQ2d 1635, 1637 (CAFC 1998). Finally, with respect to the need for specificity in an obviousness rejection, the Federal Circuit states that “the examiner can

satisfy the burden of showing obviousness of the combination only by showing some objective teaching the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teaching of the references.” *Id.*, citing *In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (CAFC 1992).

In her rejection of Applicant’s application, Examiner deviates from the above enumerated standards recited by the Federal Circuit. It is noteworthy that Examiner does not reject Applicant’s application based upon a combination of references. Rather, Examiner simply cites one reference and notes that this reference “is silent as to the delivery of the steam through the delivery line to a workstation.” (Office Action, page 3). Examiner neglects to recognize that it is this very delivery of steam through the delivery line that is an area of novelty in Applicant’s invention. Under the principles of *In re Lee*, Examiner simply cannot make an unsupported statement to the effect that Applicant’s invention is obvious because it would have been well within the purview of one of ordinary skill in the art to further utilize the ‘333 patent to force steam through the lines as a way to eliminate biofilm. Rather, *In re Lee* requires that Examiner to make a thorough and searching inquiry based on objective evidence of record. Applicant respectfully submits that there is no evidence of such a thorough and searching inquiry in the instant Office Action, nor is there any objective evidence of record demonstrating that Applicant’s invention is the result of an obvious combination.

Moreover, not only is Examiner’s statement unsupported, but it is factually inaccurate. The system of the ‘333 patent cannot, on a structural basis, perform the tasks taught by Applicant’s invention. For example, the system of the ‘333 patent does not include a diverter valve that allows multiple inputs to be selectively in communication with a fluid delivery line.

Moreover, the system of the '333 patent does not include any structure that allows for the use of steam to remove biofilm from lines and dental equipment.

Yet even more importantly, Examiner does not (and cannot) demonstrate that the system of the '333 patent even remotely suggests the innovations of Applicant's invention. Rather, Applicant respectfully submits that the system of the '333 patent actively teaches away from Applicant's invention. The system of the '333 patent solves the problem of providing sanitized water to dental equipment by providing a means to sanitize water by heating and pressurizing it:

The applicants have recognized the real need to provide sterilized water to the waterline systems of dental units... The invention addresses the water sanitization difficulties of the prior art by economically providing sterilized water by deoxygenating and by raising the water temperature to a temperature within the range of about 190 to about 300 degrees Fahrenheit under 2 to 25 pounds of...pressure... ('333 patent, col. 2, lines 50-59).

However, Applicant's invention is directed to more than merely supplying sanitized water. Significantly, Applicant's invention is directed to supplying sanitized water and providing a way to remove biofilm from dental equipment (page 3, lines 10-12). The '333 patent is not directed in any way to providing a means to remove biofilm from the equipment itself. Moreover, the '333 patent further teaches away from Applicant's invention by noting that any steam generated in the process of heating and pressurizing the water is merely extraneous and may be vented or diverted for secondary uses. Any steam generated in the '333 system serves absolutely no purpose in the system whatsoever:

The heated sterilized water is then provided to the output section 20 and then to the dental patient...for subsequent use. In order to be more comfortable for the patient, the water is cooled in outlets section 20 prior to being delivered to the patient...Since the sterilization of water by heating is likely to generate steam...a steam or oxygen relief passage 120 is provided. **This steam or oxygen relief passage 120 can serve to provide for a supply of**

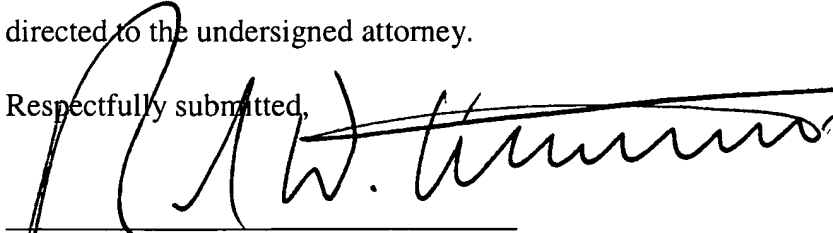
**steam to another device such as an autoclave (not shown) or a route for oxygen to escape...** ('333 patent, col. 4, lines 44-54) (emphasis added).

Clearly, not only is there no suggestion in the '333 patent to use steam as a means to remove biofilm from dental equipment, but instead the '333 patent characterizes steam as a nuisance by-product for which some use might be found. In stark contrast to the approach taken by the '333 patent, Applicant's invention generates steam which is used as an effective way to eliminate biofilm. Thus not only is the '333 patent designed to address a different problem as compared to Applicant's invention, but the '333 patent actively teaches away from Applicant's invention by stating that the steam generated in the sterilization process serves no purpose within the confines of the patented system. Hence because the '333 patent actively teaches away from Applicant's invention, there is no legal basis for an obviousness rejection under the principles espoused in *In re Lee*.

### **III. Conclusion**

For at least the foregoing reasons, all presently pending claims are believed to be in condition for allowance. Applicant respectfully requests that Examiner withdraw her rejection, and early notice of allowance is hereby respectfully requested. Any questions, comments or suggestions the Examiner may have should be directed to the undersigned attorney.

Respectfully submitted,



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